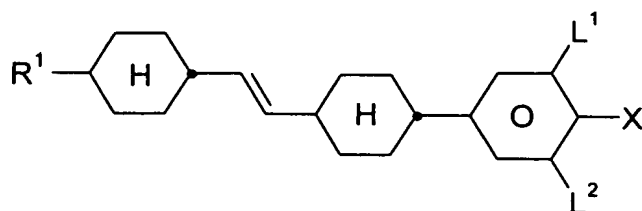


Patent Claims

1. Liquid-crystalline medium based on a mixture of polar compounds, characterised in that it comprises one or more compounds of the formula I



in which

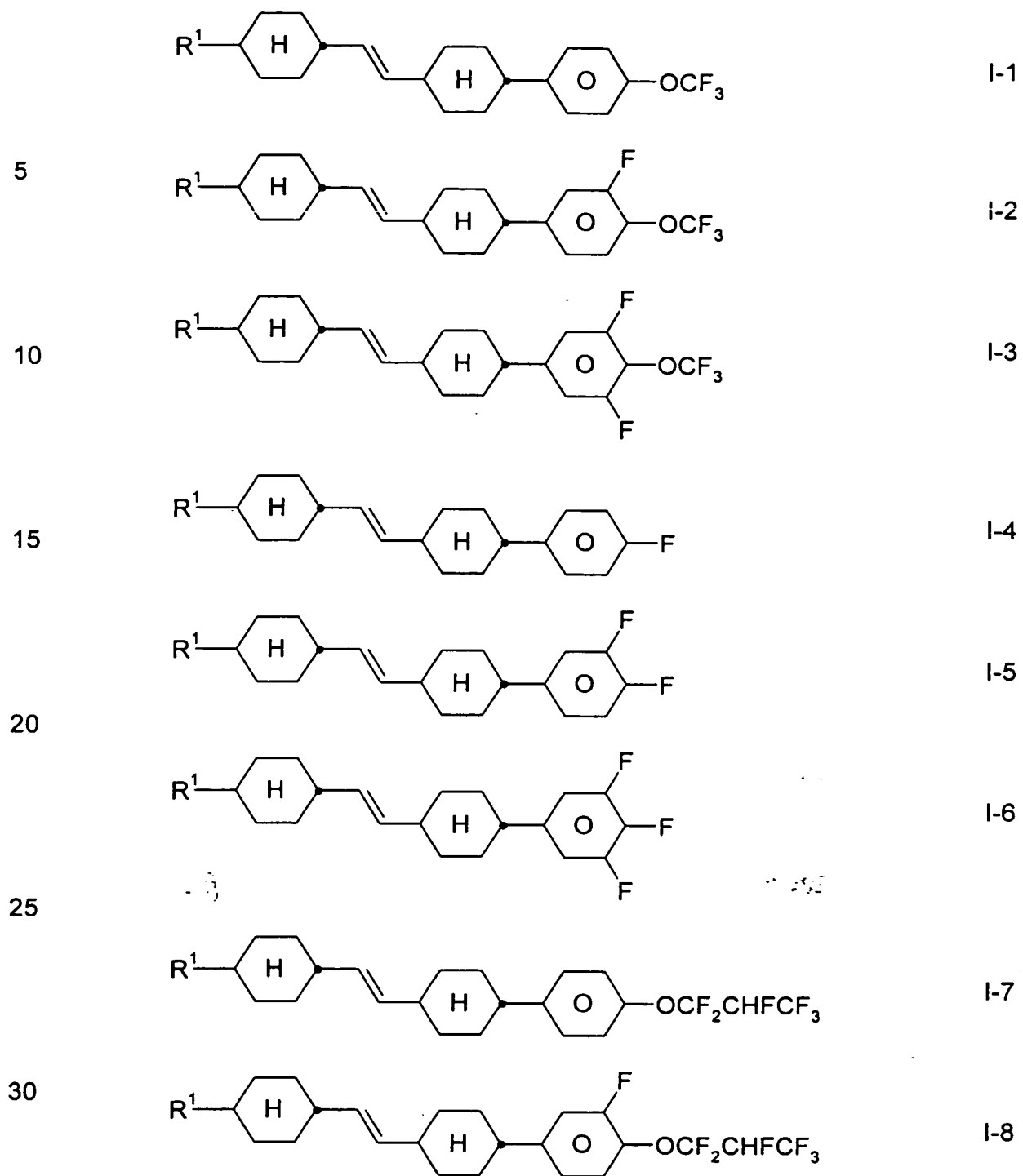
R^1 is a halogenated or unsubstituted alkyl or alkoxy radical having from 1 to 15 carbon atoms, where, in addition, one or more CH_2 groups in these radicals may each, independently of one another, be replaced by $-C\equiv C-$, $-CH=CH-$, $-O-$, $-CO-O-$ or $-O-CO-$ in such a way that O atoms are not linked directly to one another,

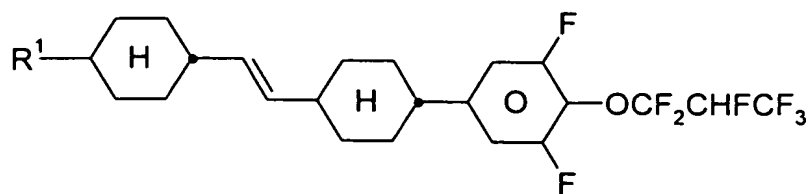
X is F, Cl, CN, a halogenated alkyl radical, a halogenated alkenyl radical, a halogenated alkoxy radical or a halogenated alkenyloxy radical having up to 6 carbon atoms, and

L^1 and L^2 are each, independently of one another, H or F.

2. Liquid-crystalline medium according to Claim 1, characterised in that R^1 = alkenyl in the compound of the formula I.

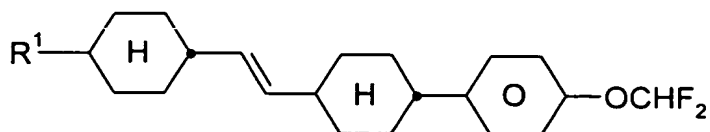
3. Liquid-crystalline medium according to Claim 1 or 2, characterised in that it comprises one, two or more compounds of the formulae I-1 to I-15





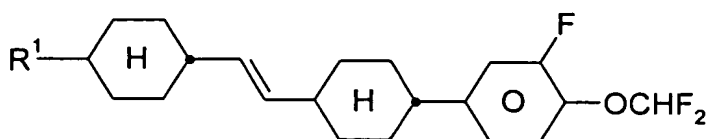
I-9

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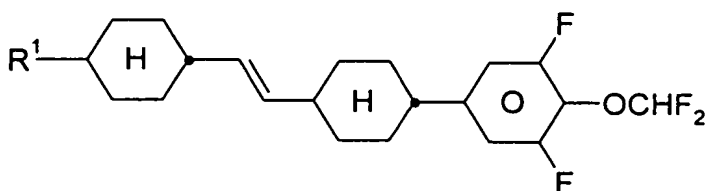
I-10

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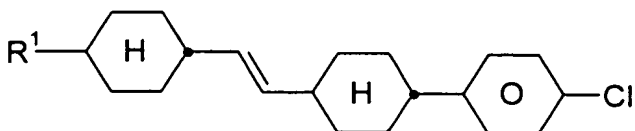
I-11

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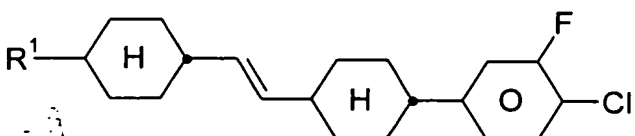
I-12

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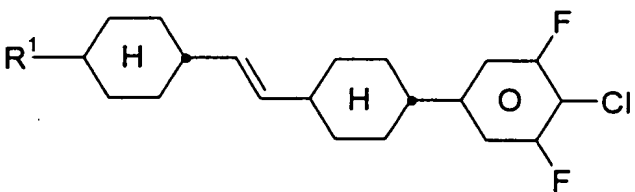
I-13

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I-14

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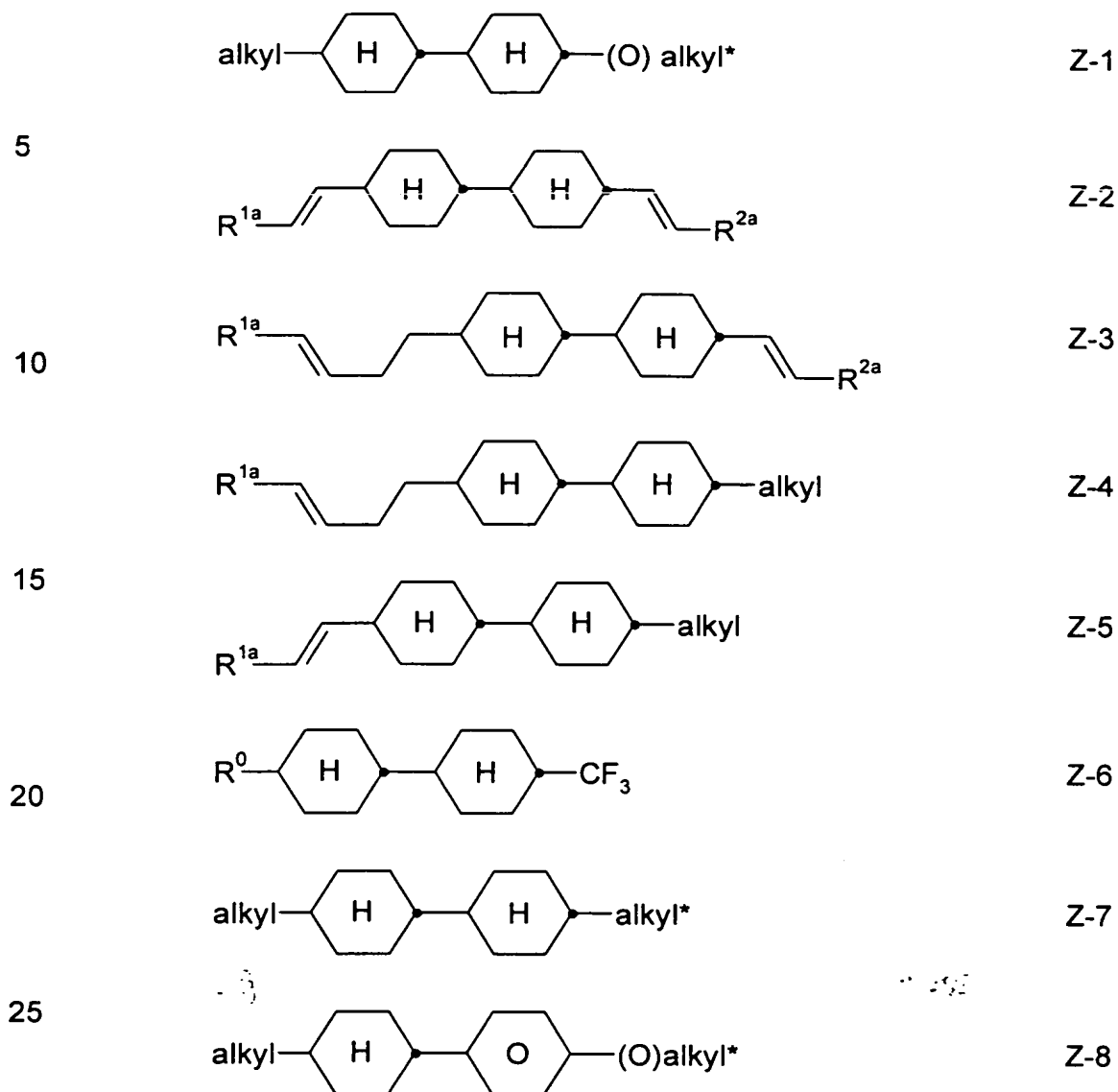


I-15

in which R^1 is as defined in Claim 1.

4. Liquid-crystalline medium according to one of Claims 1 to 3, characterised in that it comprises one, two or more bicyclic compounds of the formulae Z-1 to Z-8

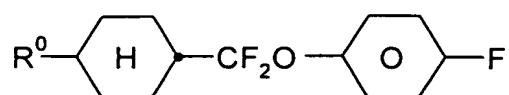
35



in which R^{1a} and R^{2a} are each, independently of one another, H, CH₃, C₂H₅ or n-C₃H₇, and alkyl and alkyl* are each, independently of one another, a straight-chain or branched alkyl group having 1-7 carbon atoms.

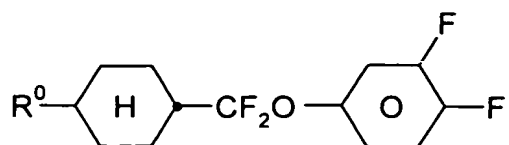
5. Liquid-crystalline medium according to one of Claims 1 to 4, characterised in that it comprises one or more compounds of the formulae Q-1 to Q-15

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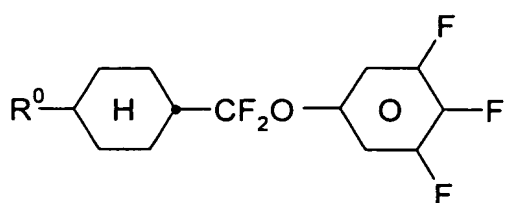
Q-1

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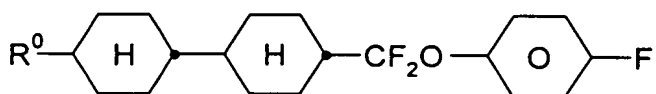
Q-2

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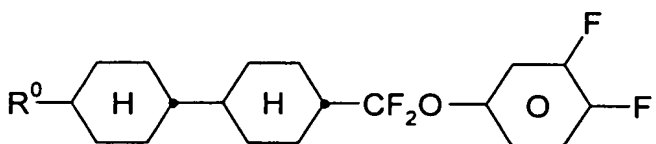
Q-3

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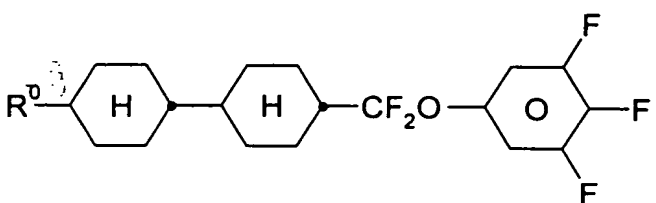
Q-4

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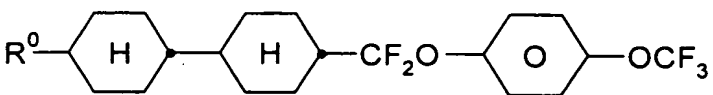
Q-5

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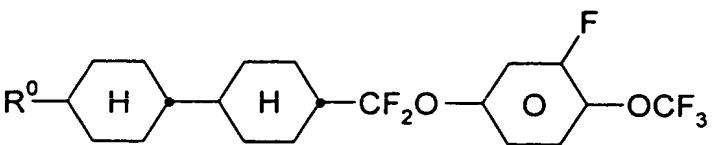


Q-6

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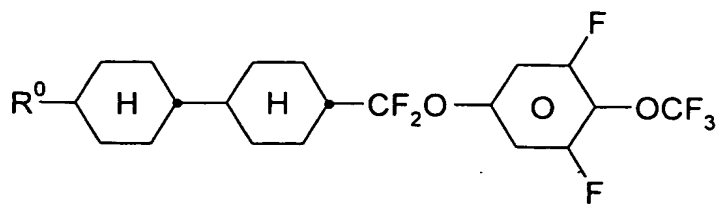


Q-7



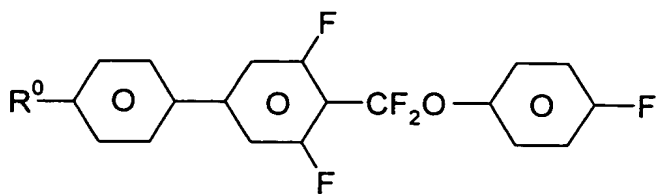
Q-8

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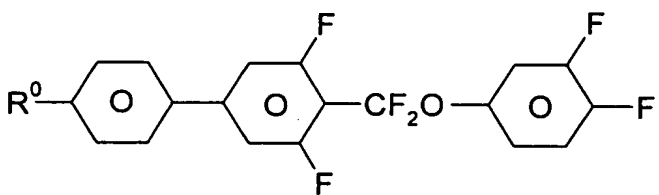
Q-9

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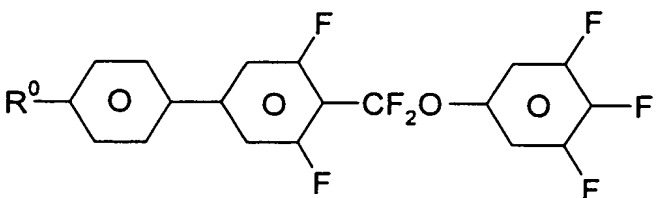
Q-10

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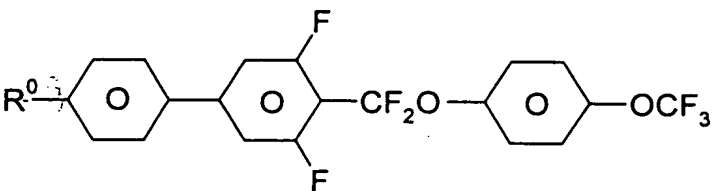
Q-11

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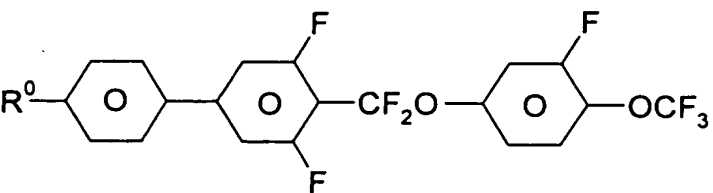
Q-12

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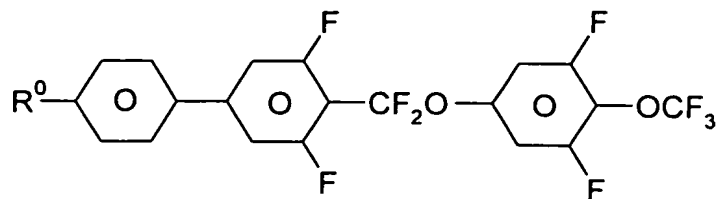
Q-13

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Q-14

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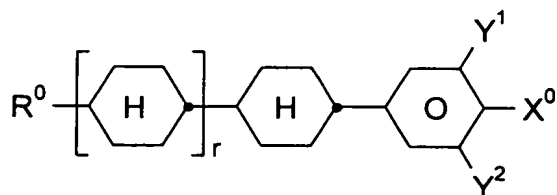


Q-15

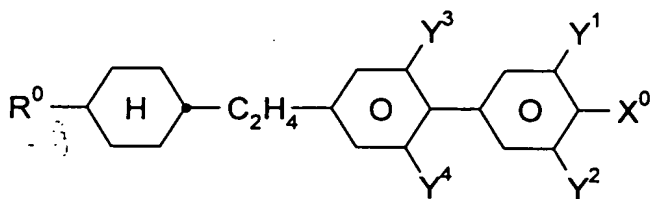
in which

R^0 is n-alkyl, oxaalkyl, alkoxy, alkenyloxy, fluoroalkyl or alkenyl, each having up to 9 carbon atoms.

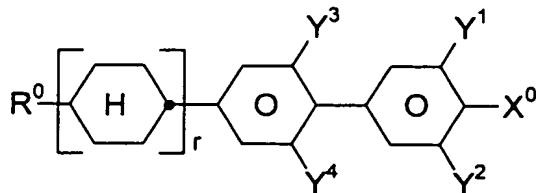
6. Liquid-crystalline medium according to one of Claims 1 to 5, characterised in that it additionally comprises one or more compounds selected from the group consisting of the general formulae II, III, IV, V and VI:



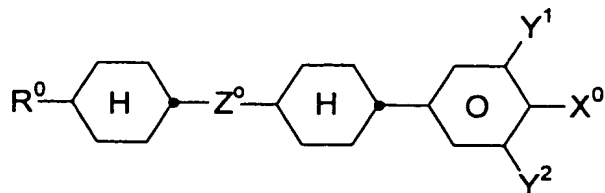
II



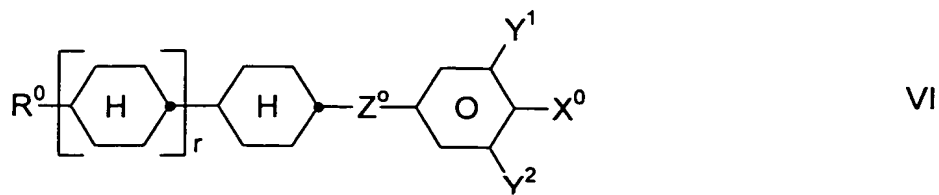
III



IV



V

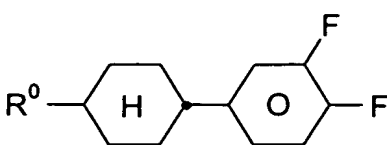
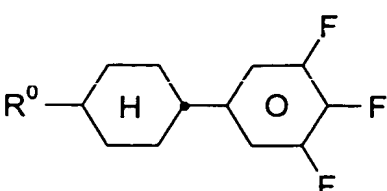
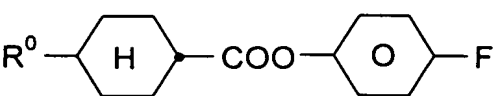
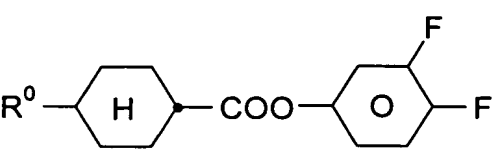
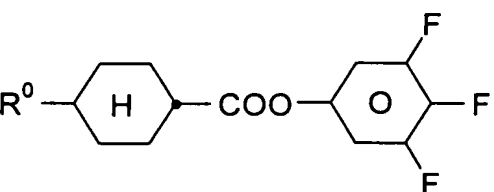
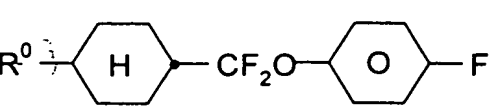
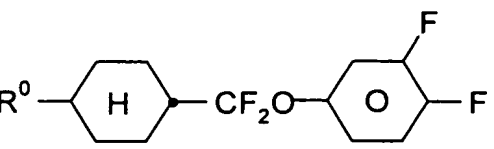
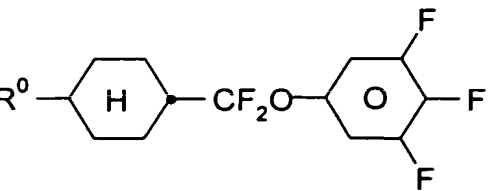


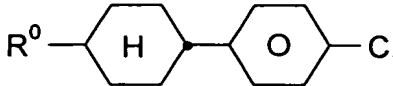
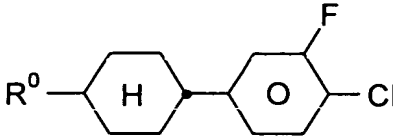
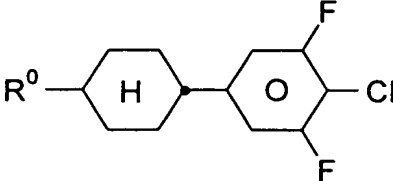
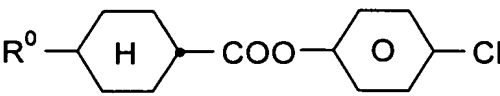
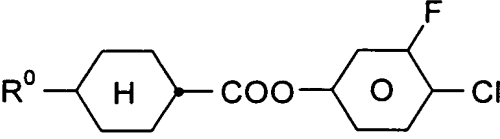
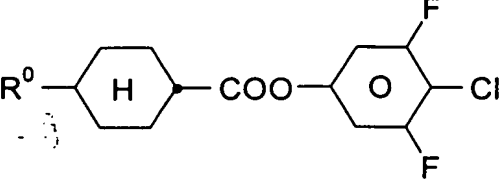
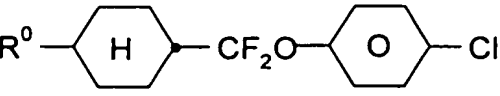
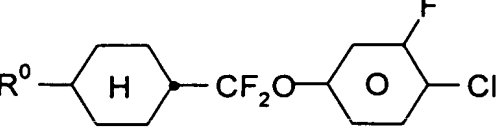
in which the individual radicals have the following meanings:

- 10 R^0 is n-alkyl, oxaalkyl, alkoxy, alkenyloxy, fluoroalkyl or alkenyl, each having up to 9 carbon atoms,
- 15 X^0 is F, Cl, halogenated alkyl, halogenated alkenyl, halogenated alkenyloxy or halogenated alkoxy having up to 6 carbon atoms,
- 20 Z^0 is $-C_2F_4-$, $-CF=CF-$, $-C_2H_4-$, $-(CH_2)_4-$, $-OCH_2-$, $-CH_2O-$, $-CF_2O-$ or $-OCF_2-$,
- Y^1 to Y^4 are each, independently of one another, H or F,
- r is 0 or 1.

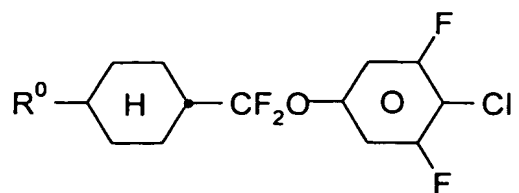
- 25 7. Liquid-crystalline medium according to Claim 6, characterised in that the proportion of compounds of the formulae I to VI together in the mixture as a whole is at least 50% by weight.
- 30 8. Liquid-crystalline medium according to at least one of Claims 1 to 7, characterised in that it additionally comprises one or more compounds of the formulae K-1 to K-27



		K-2
5		K-3
10		K-4
15		K-5
20		K-6
25		K-7
30		K-8
35		K-9

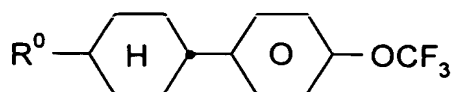
		K-10
5		K-11
10		K-12
15		K-13
20		K-14
25		K-15
30		K-16
35		K-17

5



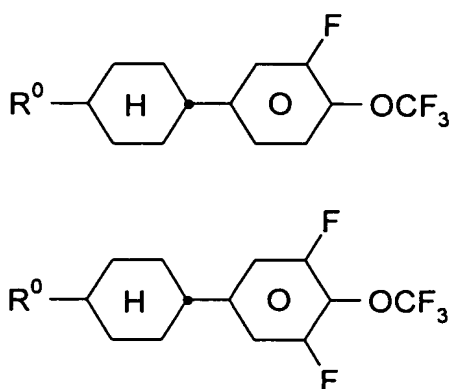
K-18

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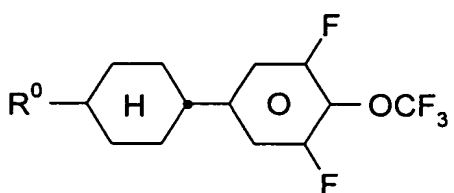
K-19

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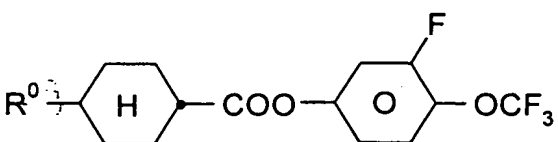
K-20

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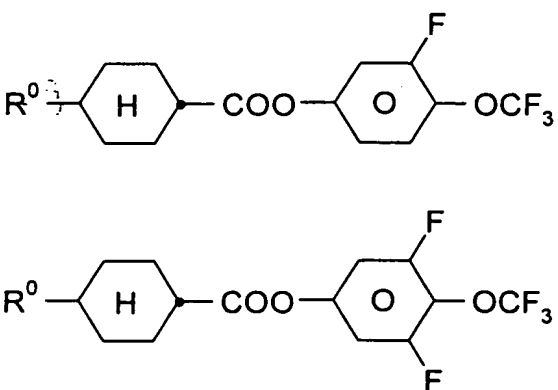
K-21

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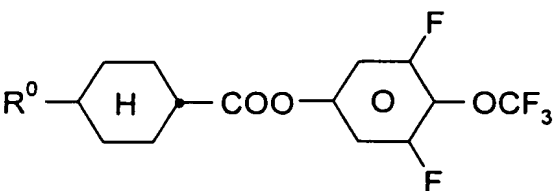
K-22

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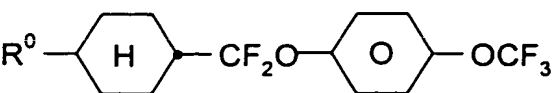


K-23

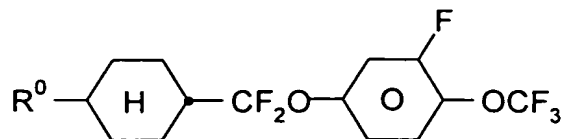
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K-24

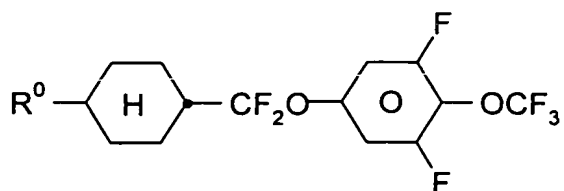


K-25



K-26

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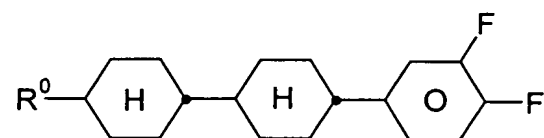
K-27

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in which R^0 is as defined in Claim 6.

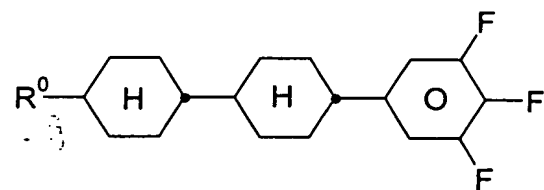
9. Liquid-crystalline medium according to at least one of Claims 1 to 8, characterised in that it comprises one or more compounds of the formulae IIa to IIg

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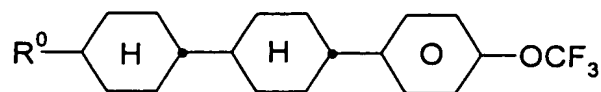
IIa

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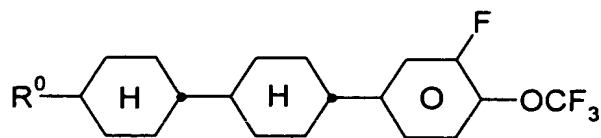
IIb

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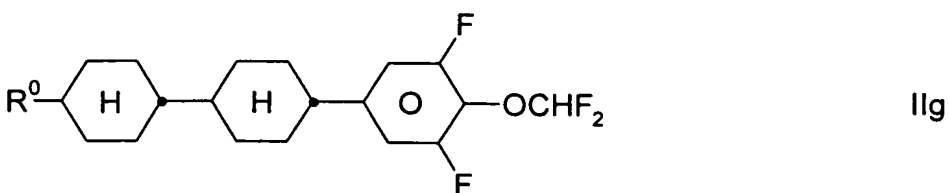
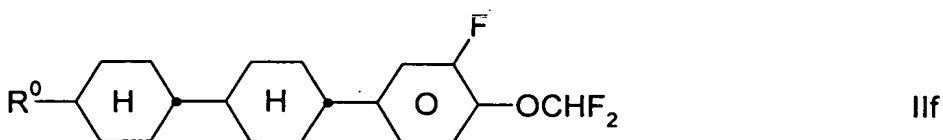
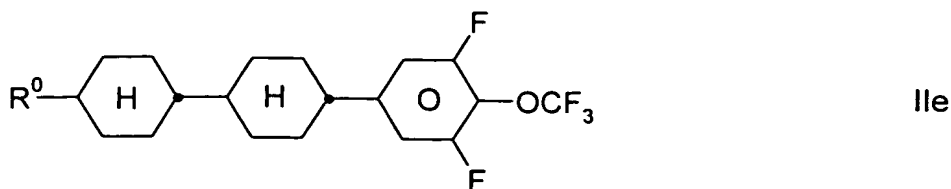
IIc

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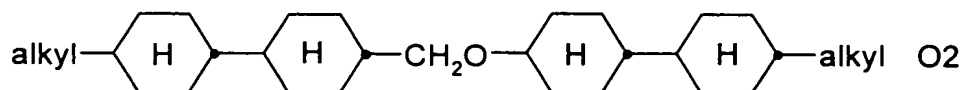
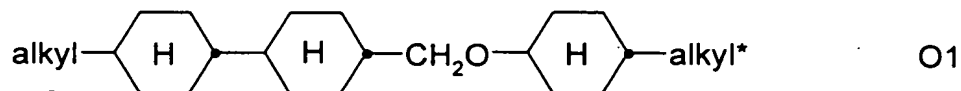
IId

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in which R^0 is as defined in Claim 6.

10. Liquid-crystalline medium according to one of Claims 1 to 9,
characterised in that it comprises one or more compounds of the
formulae O1 and O2



in which

alkyl and alkyl* are each, independently of one another, a straight-chain or branched alkyl group having 1-7 carbon atoms.

11. Liquid-crystalline medium according to at least one of Claims 1 to 10,
characterised in that the proportion of compounds of the formula I in
the mixture as a whole is from 0.5 to 40% by weight.
- 5 12. Use of the liquid-crystalline medium according to at least one of
Claims 1 to 11 for electro-optical purposes.
13. Electro-optical liquid-crystal display containing a liquid-crystalline
medium according to at least one of Claims 1 to 11.

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